Driving anxiety and fear in young older adults in New Zealand

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Abstract

Background: driving anxiety and fear can have a marked impact on mobility and independence, although there is no data on the prevalence of this problem, and specific information about the rate of driving anxiety and fear in older adults is unknown.

Methods: the present study examines the prevalence of self-reported driving anxiety and fear in a sample of 2,491 adults aged 55–72 from a longitudinal survey of health and ageing in New Zealand.

Results: most of the sample (90%) described themselves as drivers who drove daily or weekly. Around 70% of the sample reported no driving anxiety or fear, yet 17–20% endorsed a mild and 4–6% rated a moderate to severe level of driving anxiety and fear. Women reported higher levels of anxiety and fear about driving than men, but there were no age differences. Those who reported some level of driving anxiety engaged various alternative modes of transport, and a small number (2.4%) reported that their driving anxiety had affected their usual activities or work for at least a day in the previous month. Duration of driving anxiety was highly variable, from relatively recent onset to being present for much of some participants’ lifetimes.

Conclusion: driving anxiety and fear may be a significant problem for some young older adults that is likely to affect their independence and mobility. Further research to clarify the content and nature of driving anxiety, pathways to driving anxiety and the effect of factors associated with ageing on driving anxiety is needed in order to better understand this experience for older adults and develop effective interventions.

Keywords: fear, anxiety, automobile driving, travel, adult, elderly

Introduction

Driving-related anxiety, fear and phobia have been increasingly studied over recent years. Researchers have identified driving anxiety and fear as complex phenomena that do not easily fit into a diagnostic category [1–4]. For example, driving fear may occur in response to particular driving circumstances or be part of a wider pattern of agoraphobic avoidance, and can range in severity from mild anxiety and driving reluctance to phobia and complete avoidance of driving and/or riding in a vehicle [5]. Furthermore, the focus of driving fear can be highly variable. Anxious drivers have been found to have a mixture of cognitions characteristic of different types of anxiety, including panic disorder (e.g. not being able to react fast enough), agoraphobia (e.g. avoiding driving due to fear of a panic attack while driving), specific phobia (e.g. getting stuck in traffic) and social phobia (e.g. people thinking they are a bad driver or criticising their driving) [6]. However, it is unclear whether anxiety and fear affect road safety and motor vehicle crash (MVC) involvement, given that those with high levels of driving fear tend to avoid what it is they fear. Taylor et al. [7] found increased errors in an on-road driving assessment for a group of New Zealanders with driving fear compared with a control group (n = 50 in each group), yet there were no differences in MVC involvement between the groups. From the perspective of those who have experienced an MVC, a study in Norway with 4,448 crash-involved drivers reported that the highest risk was associated with self-reported anxiety (experienced at least once a week; odds ratio = 3.15) [8].

Inconsistent definitions of driving fear and phobia have affected research on prevalence rates, which have mostly been derived from studies of MVC victims [9]. Studies of non-MVC samples provide no information on the prevalence of driving phobia because the samples are selected on
Driving anxiety and fear

The only published study to date on the frequency of driving anxiety and fear in a general community sample (mean age = 38.80, SD = 15.28) was carried out in New Zealand with a convenience sample of 100 people [12]. Most of the sample described low levels of driving anxiety, fear, avoidance behaviour and negative driving-related thoughts. However, there was a small but significant minority (7–8%) who reported moderate to extreme driving anxiety and fear. This degree of fear is likely to impact on daily life to some degree. Women reported significantly more driving anxiety, fear and avoidance than men. There were no gender differences in the frequency of negative driving-related thoughts, and participants were most concerned about lack of control over other drivers, causing an accident, injuring passengers and others negatively evaluating them as a driver. Although this study was limited in that it was based on a small, non-representative sample, the results indicate the need for research on the prevalence of driving anxiety and fear in the general population. Moderate to extreme driving anxiety and fear is likely to affect psychological functioning as well as the ability to engage in daily tasks such as work and social activities.

Apart from the finding of gender differences in self-reported driving anxiety, fear and avoidance, it is not known whether experiences of driving anxiety are disproportionate for other variables, such as age. For example, many older adults face the prospect of voluntary changes in driving in response to different mobility needs (e.g. retirement) as well as driving cessation imposed by factors such as disability, changes in health and functional status, vision problems and cognitive impairments [13–17]. Research has consistently reported that older adults tend to self-impose limits on their driving in order to compensate for changes in physical or cognitive ability and increase their sense of safety, such as avoiding driving in situations considered more challenging (e.g. at night and in heavy traffic) [18, 19]. Some of this research has also noted that feelings of stress and insecurity about driving are factors reported by older adults as influencing their decision to limit or avoid driving [14, 20, 21]. For example, Persson [14] found that 20% of a sample of 56 older adults aged 66–96 identified ‘increased nervousness behind the wheel’ as a reason for driving cessation, second only to ‘advice from doctor’, which was reported by 27% of participants in a series of focus groups. Driving-related anxiety has also been identified as a psychological trait in elderly drivers from a study on the suitability of a measure of driving risk for older Spanish drivers [22]. In a factor analysis of a measure of reckless driving attitudes and behaviour, the largest factor identified consisted of items reflecting threat, such as ‘when I drive I frequently get scared’ and ‘lately I am afraid to drive’.

These kinds of self-reports of driving anxiety may be secondary to changes in functional status and physical and cognitive ability, although no studies have explicitly assessed this relationship. Furthermore, as with the lack of prevalence data on driving fear in the general population, specific information about the rate of driving anxiety and fear in older adults is unknown. Such research is important as it contributes to understandings of changes in mobility and independence in an increasingly ageing society. The present study aimed to provide the first such investigation, examining the prevalence of driving anxiety and fear among older adults from a broader longitudinal study of health and ageing in New Zealand.

Methods

The present study was conducted under the auspices of the Health, Work and Retirement (HWR) longitudinal study, established in 2005 at Massey University in New Zealand, to identify the factors that predict health and wellbeing in old age (ethics approval was obtained from the Massey University Human Ethics Committee, HEC: 05/90). The HWR study conducted two waves of data collection in 2006 and 2008 using both postal survey and interview methods, and data for the present study were collected in the 2008 survey data wave. In 2006, the study recruited a random sample of 55–70-year-old adults from the New Zealand electoral roll, a compulsory voting register of adults over 18 years of age that currently represents 98% of the population. The postal survey used a five-stage posting schedule based on the Tailored Design Method described by Dillman [23] in order to maximise return rates. The sample of 6,662 completed questionnaires from the 2006 data wave represented a response rate of 53% from 12,527 questionnaires. Of the 6,662 respondents, 3,071 consented to taking part in the second wave in 2008, and 2,491 completed questionnaires were returned (81% response rate).

The postal survey for the 2008 data wave was similar to that used for the 2006 data wave, and included sections asking about health (general and mental health status, chronic health conditions, health service use, alcohol consumption and tobacco use), physical activity, social support, work and retirement and socio-demographic information (e.g. gender, age and ethnicity). Seven questions related to driving, asking about current driving status and frequency, levels of driving anxiety and fear, use of different modes of transport due to driving anxiety, duration of driving anxiety and numbers of days in the last month in which usual activities were affected by driving anxiety. Levels of driving anxiety were rated on a scale from 0 (not at all anxious) to 10 (extremely anxious), as were levels of driving fear (not at all fearful to extremely fearful). The latter two ratings have been used in previous research on driving anxiety and fear [24–26].

Results

The sample that continued with the longitudinal survey in 2008 had similar primary demographic characteristics to those who completed the 2006 data wave (see Alpass et al. [27] for a description of the 2006 sample which closely matched the New Zealand 55–70-year-old population),
except obviously they were older. A little more than half of the sample were women (53.3%), and there were 25.7% aged 55–59, 35% aged 60–64, 27.4% aged 65–70 and 11.9% aged 70–72. The mean age for those aged 55–64 was 60.14 years (SD = 2.41), and was 68.11 years (SD = 2.12) for those aged 65–72. As a consequence of oversampling of Māori (the indigenous population of New Zealand), 42.5% of the sample was Māori, whereas 53.9% was New Zealand European, 0.6% Pacific, 0.4% Asian and 2.6% of other ethnic descent. Most (90%) of the sample considered themselves to be current drivers at the time of the survey, whereas 3.1% had previously driven but were not currently driving, and 4.3% had never been a driver (there were missing data on this item for 2.6% of the sample). Of the 2,241 current drivers, 81.8% drove daily, 15.1% drove weekly and many fewer drove monthly (0.8%) or less often (1.5%; there were missing data for 0.7%).

Figure 1 demonstrates that there were 69.4% of the sample who described themselves as having no anxiety about driving on the 0–10 scale (i.e. a rating of 0), whereas 20% endorsed mild ratings (ratings from 1 to 4), and 5.5% reported moderate to extreme levels of anxiety (ratings from 5 to 10; there were missing data for 5.1%). Similarly, 70.3% reported no fear of driving on the 0–10 scale, 16.5% endorsed mild fear (1–4 rating) and 3.9% endorsed moderate to extreme fear (5–10 rating; there were missing data for 9.2%; see Figure 2). The mean anxiety and fear ratings were low (M = 0.81, SD = 1.86; M = 0.60, SD = 1.64, respectively). On average, women reported significantly higher levels of anxiety about driving than men, t(2325) = 4.52, P < 0.001 (women: M = 0.98, SD = 2.10; men: M = 0.63, SD = 1.54), as well as more driving fear than men, t(2225) = 5.90, P < 0.001 (women: M = 0.80, SD = 2.00; men: M = 0.39, SD = 1.10). There were no differences in the mean anxiety rating for those aged 55–64 compared with 65–72, t(2306) = 1.79, P = 0.07. Similarly, there were no differences in the average driving fear rating for the two groups, t(2209) = 1.21, P = 0.23.

Of the 636 participants who indicated some level of driving anxiety, various alternative modes of transport were used because of driving anxiety, such as engaging transport by family or friends (31.1%), walking (24.5%), public transport (16.5%), taxi (5.5%), cycling (2.0%) and community services (1.9%). Only 60% of those reporting driving anxiety indicated the duration of their anxiety, yet of this group, 43.3% said they had been anxious about driving for less than 3 years, 18.5% for 3–5 years, 14.1% for 6–10 years and 24% for more than 10 years (half of these reported driving anxiety for 40–60 years). Of the sample, 2.4% indicated that their usual activities or work had been affected because of driving anxiety for at least a day in the previous month. For 10 participants, driving anxiety affected their usual activities for 20 days or more in the previous month (see Figure 3). Further examination of the 140 participants who endorsed a moderate to extreme level of driving anxiety revealed that 69.1% were women, about half (55.3%) were less than 65 years of age, 71.2% were currently driving and 13.7% had never been a driver. In terms of current driving frequency, 62.1% were driving at least weekly while 27.7% never drove.

**Discussion**

In what appears to be the first study of driving anxiety and fear in older adults, the present study found overall low levels of anxiety and fear about driving in a large sample of young older adults in New Zealand. About 70% indicated no such anxiety or fear, whereas 17–20 and 4–6% endorsed mild and moderate to severe anxiety and fear, respectively. These findings are similar but slightly lower than those reported by Taylor and Paki [12], in which 7–8% of a much smaller community sample of 100 reported moderate to severe driving anxiety and fear. The present study also found that women endorsed higher average levels of driving anxiety and fear than men, but there were no differences according to age.

While these results provide some preliminary information about the frequency of self-reported anxiety and fear related to driving in young older adults, details of the characteristics of these experiences were not examined, such as the content of the anxiety and fear. Differences in...
anxiety/fear content and pathways to fear were suggested in the finding of a large variation in duration of anxiety for those who reported some level of driving anxiety, from a relatively recent onset over the last few years, through to a much longer history of driving anxiety experiences, for as long as 40–60 years for 55 participants. These results suggest quite different pathways to driving anxiety, where anxiety starts relatively early in life for some, yet for others is of more recent onset and, perhaps for at least some in the present sample, in response to various factors associated with ageing, such as retirement, disability, health and loss. Such differences might also implicate diversity in the content of fear, such as early onset associated with anxiety in learning to drive, early conditioning experiences [24] and developing self-confidence as a driver, as opposed to later onset being associated with other factors, such as age-related changes or driving accidents and incidents that might have resulted from such changes. Separating out early- versus late-onset driving anxiety will be an important task for future research if the specific effects of ageing on driving anxiety are to be more fully understood.

An additional limitation of the present study relates to the measurement of driving anxiety and fear. Limited conclusions can be drawn about the frequency of the problem among older adults using a 0–10 Likert scale, whereas more information about the specific nature and characteristics of the anxiety, perhaps as well as a diagnostic approach to assessment to capture those with clinical-level problems, would provide a comprehensive understanding about the experience of driving anxiety for older adults and its impact on their mobility and independence. Driving anxiety can be experienced in various ways, from a mild, non-clinical level that might be adaptive at best or mildly stressful at worst, through to part of a number of anxiety disorders, although can also be associated with loss of a spouse (who may have undertaken all of the driving in the relationship), changes in health or functional capacity that has implications for driving, and levels of confidence about oneself as a driver. Lack of confidence may contribute to driving anxiety and avoidance behaviour, especially in the context of lapses while driving [28, 29]. Anxiety may also serve a protective, self-regulatory function for some older adults in adapting driving behaviour to avoid an MVC or injury to self or others (e.g. restricting driving to certain times of the day or in certain regions and traffic conditions). Further research into whether and how these apply for older adults will be needed so that appropriate interventions can be developed and evaluated.

Key points

- Almost 70% of a sample of young older adults reported no driving anxiety or fear, whereas 17–20% endorsed a mild level and 4–6% reported a moderate to severe level of driving anxiety and fear.
- Women reported higher levels of anxiety and fear about driving than men, but there were no age differences.
- Duration of driving anxiety was highly variable, suggesting different pathways to a problem which, for some, impacted on everyday activities.

Conflicts of interest

For all authors, there are no potential conflicts of interest.

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References

Frequency of inappropriate drugs in primary care: analysis of a sample of immobile patients who received periodic home visits

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Abstract

Background: drug intake is associated with the risk of drug-related problems (DRPs), e.g. the intake of PIM.
Objective: the proportion of potentially inappropriate medication (PIM) taken by elderly people was analysed.